

NATIONAL  
TELEMATICS  
FRAMEWORK

# TELEMATICS DATA EXCHANGE

A common set of communication rules

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# TELEMATICS DATA EXCHANGE

## NATIONAL TELEMATICS FRAMEWORK

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1.0	2006	Intelligent Access Program (IAP) Operating Model
2.0	2018	Updated to support multiple applications

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TCA page numbering convention: for ease of digital readability and referencing the cover is page 1.

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# NATIONAL TELEMATICS FRAMEWORK

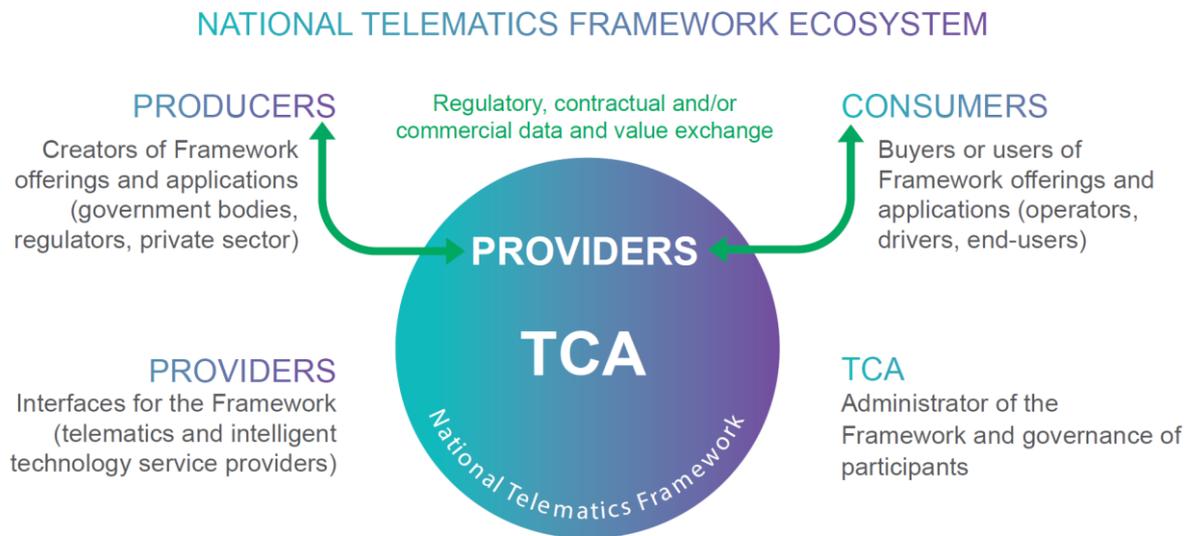
The National Telematics Framework is a digital business platform consisting of infrastructure and rules that support an open marketplace of telematics and related intelligent technology providers.

The National Telematics Framework:

- Provides a national platform for the use of telematics and related intelligent technologies
- Supports different applications across regulatory, contractual and commercial needs
- Supports different levels of assurance
- Is outcome focussed and encourages innovation.

*The adoption of the National Telematics Framework for the delivery of offerings and applications both for public policy and private decision making is a world first. It has positioned Australia as the leader in the delivery of such services through the advent of the digital economy.*

The National Telematics Framework was established following a series of decisions made by Responsible Ministers between 2003 and 2008, and was globally recognised as an International Standard (ISO 15638) in 2012.



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## 1 INTRODUCTION

The Telematics Data Exchange within the National Telematics Framework describes the standard methods and mechanisms for the transfer of telematics data between entities.

### 1.1 WHAT IS THE TELEMATICS DATA EXCHANGE?

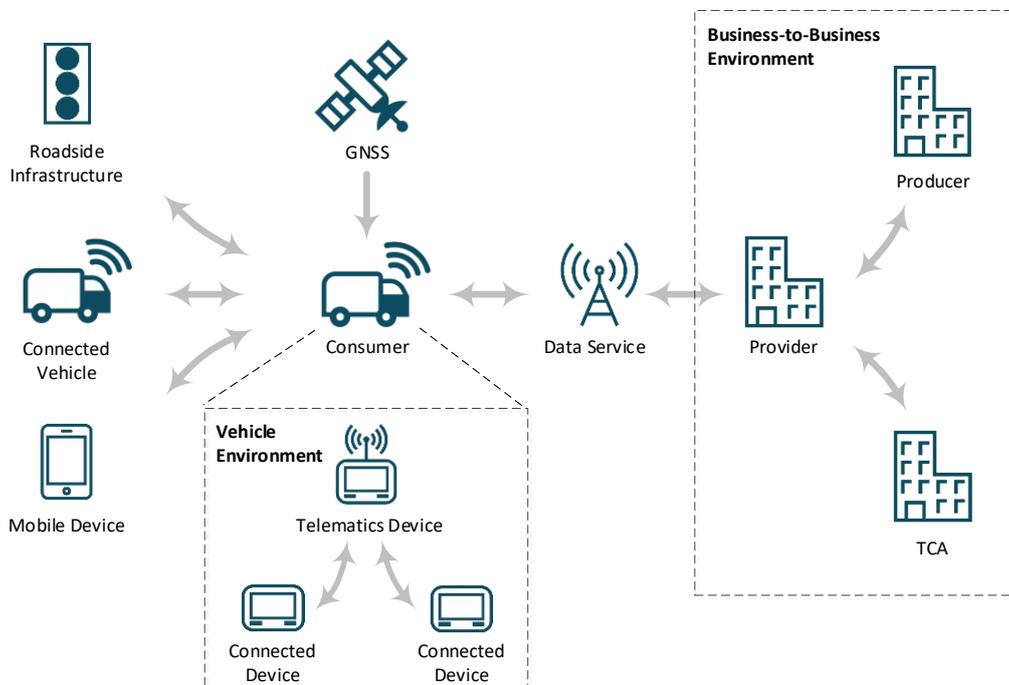
The consistent, reliable and efficient exchange of data between entities within a large-scale, distributed system requires the consideration and agreement of several foundations.

Consider the analogy of composing and exchanging letters using a postal system, in particular:

- Similar to agreeing to converse in English, the language used by communicating entities is defined by the *Telematics Data Dictionary*, ensuring that data elements are meaningful through use of agreed data types, formats and definitions.
- Similar to a conversation in which phrases may convey information specific to a particular context, the messages used by communicating entities are defined within each application, ensuring that telematics messages have consistent intent and content, according to their application context.
- Similar to using envelopes, stamps and mailboxes for the carriage of physical mail, the digital methods and mechanisms used by communicating entities to deliver data records are defined by the *Telematics Data Exchange*, ensuring that occurs with the reliability, integrity, security and privacy appropriate to the level of assurance<sup>1</sup> desired.

## 2 WHERE DOES THE TELEMATICS DATA EXCHANGE APPLY?

Telematics Data Exchange describes standardised and interoperable data communication interfaces appropriate to various environments, including within the vehicle environment and outside the vehicle environment (Figure 1).



**Figure 1.** Telematics Data Exchange Environments

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<sup>1</sup> See the *National Telematics Framework Levels of Assurance* document for further details.

## 2.1 THE VEHICLE ENVIRONMENT

Used within the vehicle environment, the Telematics Data Exchange defines standardised interconnectivity between a telematics device and other in-vehicle intelligent technologies (Figure 2). These typically each provide discrete and complementary functionality, and their interconnection allows for the efficient provision of a coherent and complete telematics solution.

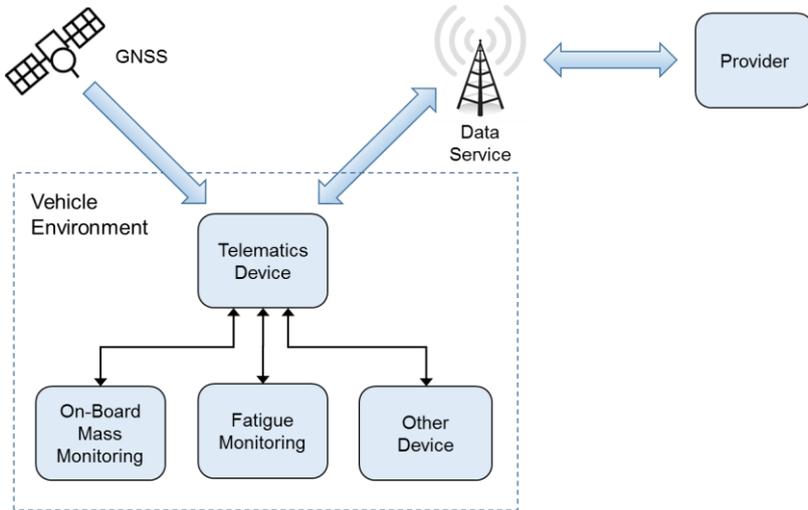


Figure 2: Vehicle Environment Telematics Data Exchange

## 2.2 THE BUSINESS-TO-BUSINESS ENVIRONMENT

Used within the business-to-business environment, the Telematics Data Exchange defines several standardised back-office interfaces, including that between a provider and a producer responsible for managing an application. Defined interactions are standardised and can therefore be used to consistently and efficiently support the needs of a range of applications.

Three tiers of Telematics Data Exchange exist within the business-to-business environment.

**Tier 1** – A digital data transaction environment that manages vehicle enrolments into applications, description of operating conditions, adherence (or otherwise) to those conditions, and summary reporting of vehicle activities (Figure 3).



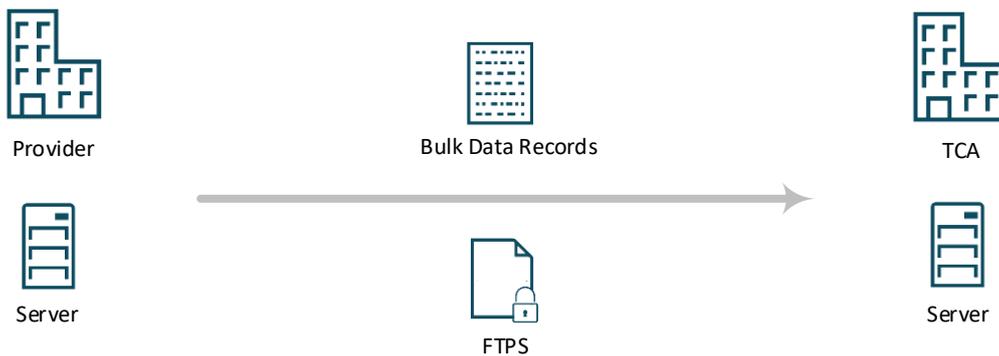
Figure 3: Tier 1 Business-to-Business Telematics Data Exchange

**Tier 2** – The exchange of business activity related information and advice, including options for secure email, and various web services and application programming interfaces (Figure 4).



**Figure 4: Tier 2 Business-to-Business Telematics Data Exchange**

**Tier 3** – The packaging and secure delivery of bulk data records, the purpose for which can be quite varied, linked to requirements of applications and their associated levels of assurance (Figure 5).



**Figure 5: Tier 3 Business-to-Business Telematics Data Exchange**

### 3 WHAT ARE THE BENEFITS OF USING TELEMATICS DATA EXCHANGE?

The Telematics Data Exchange brings producers, providers, consumers and TCA together in a structured digital business environment, where the methods and mechanisms for exchanging information are standardised and reusable according to purpose, regardless of the information content and the specific application. This provides reliability and efficiency.

Telematics Data Exchange also defines a range of methods and mechanisms suitable for different telematics environments and purposes, according to the level of assurance desired between the entities involved. This provides flexibility and scalability.

Where appropriate to the level of assurance desired, Telematics Data Exchange ensures the transfer of information occurs with a high degree of security, privacy and non-repudiation within the methods and mechanisms of information delivery. This provides confidentiality and integrity.

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## 4 TELEMATICS DATA EXCHANGE SPECIFICATIONS

There are two specifications that describe the Telematics Data Exchange environments:

- The vehicle environment is described in the *Telematics In-Vehicle Data Exchange Specification*
- The business-to-business environment are described in the *Telematics Business-to-Business Data Exchange Specification*.

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A graphic banner for the National Telematics Framework. It features a network of interconnected nodes and lines in shades of grey and blue. The text 'NATIONAL TELEMATICS FRAMEWORK' is positioned on the left side. The background transitions from light grey to a dark blue gradient on the right.

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